Congratulations for seeking Govt. Sponsored Project

Name: **Dr. Shrimoyee Ganguly (Principal Investigator)**

Department: **Quantitative Economics & Data Science**

Project Title: **Green-Compass: Greening India's exports through compititiveness mappping and policy simulation strategies under emerging carbon border trade regimes**.

Funding Agency: **ANRF-ARGM (Anusandhan National Research Foundation – Advanced Research Grant – Mathematical)**

Sanction Amount: **1800000 Lakhs**

Fund Utilised.: 0

Tenure: **3 Years**

Abstract:

GREEN-COMPASS (Greening India's Exports through Competitiveness Mapping and Policy Simulation Strategies under Emerging Carbon Border Trade Regimes) addresses the growing threat of climate-aligned trade measures such as the EU's Carbon Border Adjustment Mechanism (CBAM). As global trade shifts toward sustainability, India's major emission-intensive exports—steel, aluminum, cement, fertilizers, and chemicals—face increasing risks due to their high carbon footprint. At the same time, global consumers and regulators are becoming increasingly sensitive to the environmental impact of imported goods. The project proposes a strategic framework to evaluate the readiness of Indian sectors and firms for emerging green trade regimes. It aligns with SDG 9 (Industry, Innovation and Infrastructure), SDG 12 (Responsible Consumption and Production), and SDG 13 (Climate Action). Instead of relying on volume-driven, low-cost exports vulnerable to being labeled "ecological dumping," the project advocates a transition toward high-value, environmentally sustainable exports. Its objectives are to: map India's sectoral exposure to carbon border taxes; estimate trade competitiveness under alternative CBAM scenarios; assess firm-level carbon exposure and ESG readiness; develop a vulnerability scorecard based on emissions intensity and export dependency; and provide sector-specific recommendations to strengthen export resilience. The project combines theoretical and empirical research. A multi-country, multi-sector General Equilibrium trade model examines firms' choices between dirty and clean technologies under CBAM tariffs and abatement costs, showing how carbon pricing affects comparative advantage, technology upgrading, welfare, and trade flows. Empirical work includes trade analysis using UN Comtrade and DGFT data, emissions mapping through WIOD and GTAP, gravity-model simulations, and a firm-level vulnerability index for top exporters using CMIE Prowess. Stakeholder consultations with MoCI, DPIIT, EXIM Bank, and export promotion councils will support policy toolkits, exposure indices, trade simulations, and policy briefs for climate-conscious export competitiveness.

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